

CLAIMS:

1. A lithographic method of providing at least one side surface of a substrate with electrical wiring comprising at least one electrically conducting strip, which method comprises the steps of:
 - providing a substrate comprising at least one side surface;
 - 5 - coating the at least one side surface with a resist layer;
 - providing a mask comprising a mask pattern having a number of exposure radiation passing areas corresponding to the number of side surfaces to be wired;
 - providing a proximity printing apparatus comprising a source of exposure radiation, a mask holder and a substrate holder;
 - 10 - arranging the substrate in the substrate holder and the mask in the mask holder, such that the radiation passing areas of the mask pattern face the substrate side surfaces to be wired;
 - exposing the said surfaces via the radiation passing area;
 - selectively removing resist material from the resist layer thereby forming a resist pattern, and
 - 15 - using the resist pattern as a mask for configuring conductive material to obtain the required wiring, characterized in that use is made of an exposure beam, which is substantially perpendicular to the mask pattern and of a mask pattern wherein each exposure radiation passing area comprise a diffraction structure to diffract exposure radiation to the relevant substrate surface.
 - 20
2. A method as claimed in claim 1, characterized in that use is made of a mask pattern wherein the diffraction structure is an amplitude structure.
- 25 3. A method as claimed in claim 1, characterized in that use is made of a mask pattern wherein the diffraction structure is a phase structure.
4. A method as claimed in claim 3, characterized in that use is made of a mask pattern wherein the phase structure has a duty cycle of 50% and a phase depth of 180°.

5. A method as claimed in claim 1, 2, 3 or 4, characterized in that use is made of a mask pattern wherein the diffraction structure is designed to deflect incident exposure radiation at an angle of substantially 20^0 to the normal to the plane of the diffraction structure.

6. A method as claimed in any one of claims 1-5, characterized in that use is made of a mask pattern which comprises, next to a diffraction structure, mask features corresponding to substrate features to be configured in a substrate upper surface layer

7. A mask for use with the method as claimed in claim 1, characterized by a mask pattern which comprises at least one diffraction structure for deflecting incident radiation in a plane comprising the direction of periodicity of the diffraction structure and the propagation direction of the incident radiation.

8. A mask as claimed in claim 7, characterized in that the diffraction structure is an amplitude structure.

9. A mask as claimed in claim 7, characterized in that the diffraction structure is a phase structure.

10. A mask as claimed in claim 9, characterized in that the phase structure has a duty cycle of 50% and a phase depth of 180^0 .

11. A mask as claimed in claim 7, 8, 9 or 10, characterized in that the diffraction structure is designed to deflect incident exposure radiation at an angle of substantially 20^0 to the normal to the grating surface.

12. A mask as claimed in any one of claims 7-11, characterized in that its mask pattern comprises, next to a diffraction structure, mask features corresponding to substrate features to be configured in a substrate upper surface layer

13. A mask as claimed in any one of claims 7-12, characterized in that the diffraction structure is a linear diffraction grating.

14. A mask as claimed in any one of claims 7-12, characterized in that the diffraction structure is a two-dimensional diffraction grating.

5 15. A mask as claimed in any one of claims 7-12, characterized in that the diffraction structure comprises a number of linear diffraction gratings, which each form a segment of a common circular area.

10 16. A device comprising a substrate, which forms a carrier for at least one electronic component and has a wiring on at least one side end surface, manufactured by means of the method as claimed in any one of claims 1-6.